REMARKS

The Examiner has indicated that Claim 5 would be allowable if written in independent form. New Claim 9 is Claim 5 written in independent form so should be allowable. New Claims 10-13 are Claims 4, and 6-8 dependent on new Claim 9, so also should be allowable.

Applicant has cancelled rejected Claim 1 and combined Claim 1 with Claim 2. Claim 2 has been written in independent form. Claims 3 and 7 have been amended to change the dependency from cancelled Claim 1 to Claim 2. Claim 6 has been amended to correct a typographical error.

The Examiner has rejected Claim 2 under 35 USC 103 as unpatentable over Reynertson et al., US Patent No. 4,759,225, in view of Applicant's Statement of the prior art (p. 1 of written specification, line 9 from last) (this is a statement of DE 195 02 616 A1 which is equivalent to US Patent No. 5,672,834 to Searle et al.), and further in view of Ruge, US Patent No. 2,403,952. Applicant's statement of prior art referred to by the Examiner is a statement of the prior art shown by DE 195 02 616 A1 which is equivalent to US Patent No. 5,672,834 to Searle et al. US Patent No. 5,672,834 shows a rotating torque meter for measuring torque acting between rotating elements. The torque signals are transmitted from the rotating torque meter to a stationary receiver through a transmitter for electromagnetic A. C. fields. There are axially extending spokes 29 and spokes 28 extending substantially in peripheral direction. The latter spokes carry strain gauges 30 or the like for measuring the torque.

The structure of US patent 5,672,834 is not appropriate for the calibration of screwing tools, because, when calibrating screwing tools, there is no continuous rotation with only a torque about the axis of rotation. If, for example, a torque wrench is to be calibrated, a force is exerted manually on a lever arm, and there is not only a torque about the axis of rotation, but

there are also uncontrolled transverse and axial forces. The influences of such forces cannot be eliminated by just two strain gauges on diametrically opposite spokes (28). Thus, correct calibration of screwing tools cannot be achieved simply by using a structure as shown in US patent 5,672,834 and holding the outer ring stationary. The holding of the outer ring stationary is not taught or suggested by US patent 5,672,834.

US patent 4,759,225 relates to a torque tool, such as a screw driver or wrench, which can also be used as a torque analyzer. The internal structure of this torque tool is not disclosed. Combining US patent 5,672,834 with US patent 4,759,225 will not lead to the now claimed design.

This situation is not changed, by adding US patent 2,403,952. US patent 2,403,952 shows spokes in the form of leaf springs which are bent circumferentially under the action of the torque, and this bending is measured by strain gauges.

Claim 2 requires that the first type webs (having relatively large width circumferentially but having relatively small axial dimensions) form "a first cross of four first type webs angularly spaced by 90° about said axis". This feature is not shown by any of the three above mentioned references. US patent 5,672,834 has only two diametrically opposite "first type webs". US patent 4,759,225 does not show any structure of the torque sensor. US patent 2,403,952 has no "first type webs" at all.

Furthermore, Claim 2 requires that the second type webs (being relatively narrow circumferentially but having relatively large axial dimensions) form "a second cross of four second type webs angularly spaced by 90° about said axis, said second cross being angularly offset relative to said first cross by 45°". In US patent 5,672,834, the "second type webs (29) are not angularly spaced by 90°, they do not form a second cross, and there is no cross angularly

offset by 45° with respect to the cross formed by first type webs. US patent 4,759,225, again, does not show any structure of the torque sensor. US patent 2,403,952 shows only one cross of "second type webs", which is not angularly offset with respect to a cross of first type webs since US patent 2,403,952 has no "first type webs".

Claim 2 also requires:

> "an inner body defining an axis with respect to which a torque is to be measured and having seat means for engagement of a screwing tool to be calibrated and an outer annular body held stationary, said outer annular body being coaxial with said inner body and being connected with said inner body through radial webs."

US patent 5,672,834 does not show "seat means for engagement of a screwing tool to be calibrated." US patent 5,672,834 does not show "an outer annular body **held stationary**". US patent 2,403,952 does not show "seat means for engagement of a screwing tool to be calibrated" and does not show "an outer annular body **held stationary**". Again, US patent 4,759,225 does not show details of the torque measuring structure, thus it shows no "outer annular body... being connected with said inner body through radial webs". The device shown in US patent 4,759,225 shows, primarily, a torque tool such as a screw driver or a wrench. This torque tool has a shaft 34 rotatably mounted in a housing or tool member T. This shaft carries a square-end for attaching various tool elements. It is not disclosed in the patent, what the torque tool looks like inside. But a person skilled in the art will assume that there is a motor in the housing for driving the shaft, and a torque sensor of whatever design is arranged between the motor and shaft. There is no indication in this patent that the "torque transducer" is anything like that of the present invention.

Applicant's invention provides a highly accurate torque measuring device for measuring torques for calibrating screwing tools. The specific crosswise arrangement of the first type webs, carrying the strain gages, compensates for disturbing forces, i.e., transverse forces exerted by the tools to be calibrated. The crosswise second type webs uniformly takes up axial force components. The relative orientation of the elements is critical, which is not taught or suggested by the references. None of the cited references, either alone or in combination, suggest applicant's arrangement of the first type webs or applicant's arrangement of the second type webs, nor do they then suggest the relative arrangement of the first type webs in relation to the second type webs. Applicant's invention, as set forth in Claim 2, is not obvious from the combination of references cited by the Examiner. Claim 2 should be allowable, along with the claims dependent thereon.

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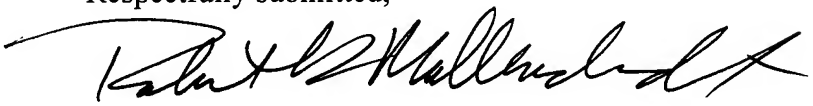
Dated this 29 day of August, 2005.

Respectfully submitted,



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Enclosure